

OCT 24 2006

USSN 10/782,397
Amendment and Response to
Office Action dated April 24, 2006

Attorney Docket No. 60505CIP2 (49991)

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all previous claims and listings in the application.

1. (Currently amended) A porous material comprising a copolymer of at least one hydrophobic monomer and at least one hydrophilic monomer, wherein said copolymer further comprises at least one ion-exchange functional moiety selected from the group consisting of a cyclic tertiary amine and a substituted cyclic amine.
2. (Original) The porous material of claim 1, wherein the porous material comprises a porous particle that comprises said copolymer.
3. (Original) The porous material of claim 2, wherein said copolymer is non-sulfonated.
4. (Currently amended) The porous material of claim 2, wherein said substituted cyclic amine is substituted by an electron withdrawing group.
5. (Original) The porous material of claim 2 wherein said hydrophobic monomer is divinylbenzene or styrene.
6. (Original) The porous material of claim 2 wherein said hydrophilic monomer is N-vinylpyrrolidone or N-vinyl acetamide.
7. (Original) The porous material of claim 2 wherein said copolymer is a poly(divinylbenzene-co-N-vinylpyrrolidone).
8. (Currently amended) The porous material of claim 2 wherein the hydrophobic monomer is substituted by at least one haloalkyl group, and the ion-

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exchange functional moiety is formed by reaction of the haloalkyl group with an appropriate starting amine to form an amine selected from the group consisting of a cyclic tertiary amine and a substituted cyclic amine.

9. (Currently amended) The porous material of claim 8, wherein said haloalkyl is fluoromethyl, chloromethyl, bromomethyl or iodomethyl.

10. (Currently amended) The porous material of claim 8, wherein the appropriate starting amine is an amine selected from the group consisting of azirane, azetane, azolane, azinane, azepane, azocane, azonane, azecane, diazatene, diazolane, diazinane, N-methyldiazinane, diazepane, diazocane, diazonane, diazecane, oxazetane, oxazolane, oxazinane, oxazepane, oxazocane, oxazonane, oxazecane, thiazetane, thiazolane, thiazinane, thiazepane, thiazocane, thiazonane, thiazecane, imidazole, piperidine, piperazine, N-methylpiperazine, and morpholine.

11. - 27. (Cancelled)

28. (Withdrawn) The porous material of claim 1, wherein the porous material comprises a monolith that comprises said copolymer.

29. (Withdrawn) A copolymer having the formula I:



and salts thereof,

wherein the order of repeat units A, B and C may be random, block, or a combination of random and block;

wherein

$$1 < (p+n) < 100$$

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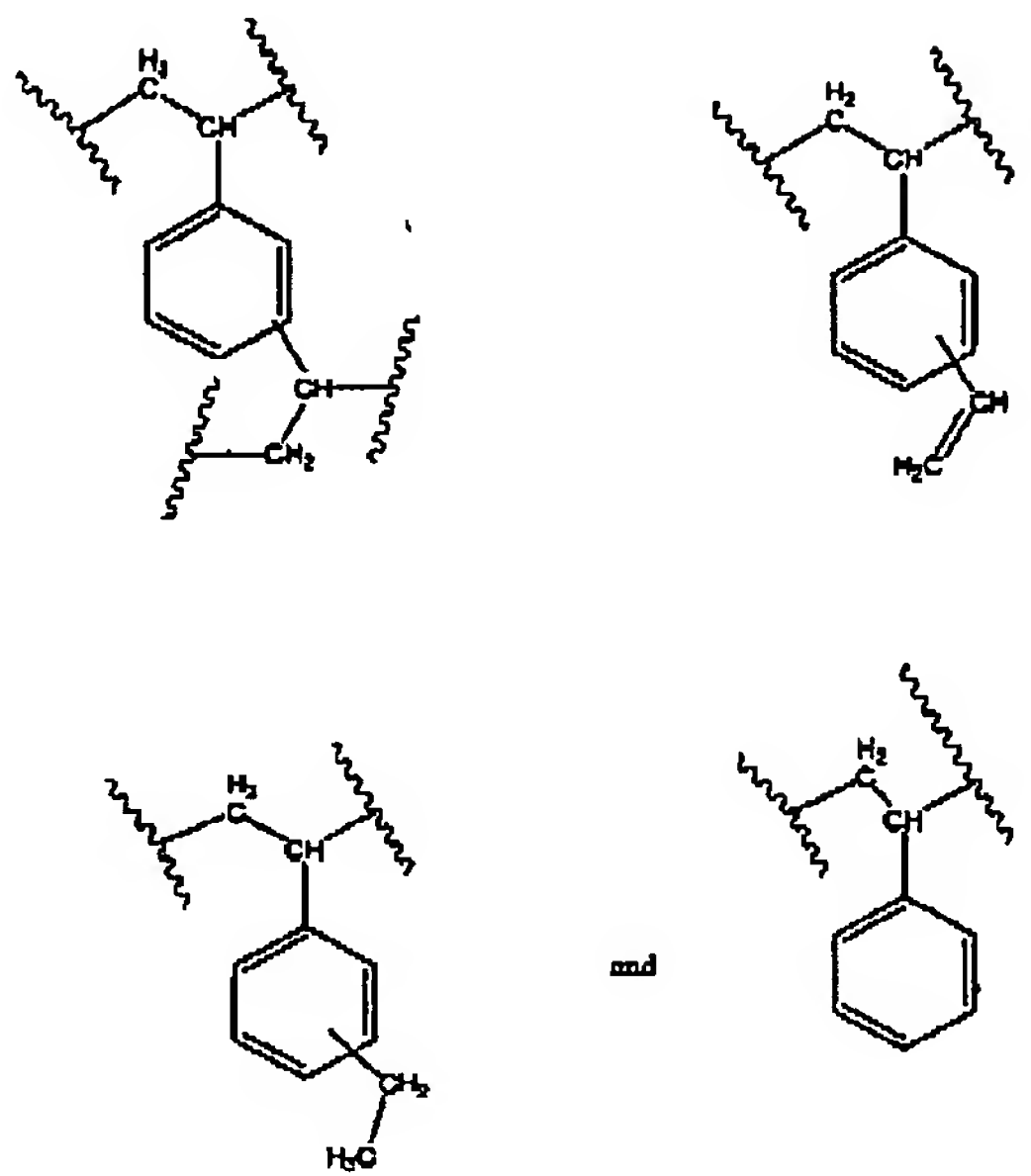
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100 m 1

and

$\frac{1}{500} < p < \frac{100}{1}$
500 n 1

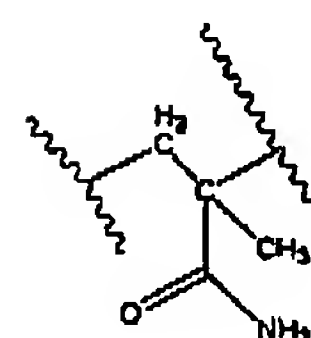
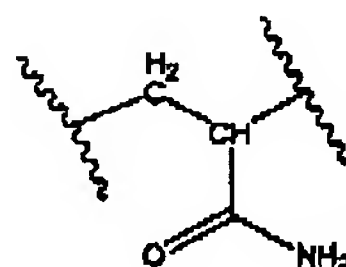
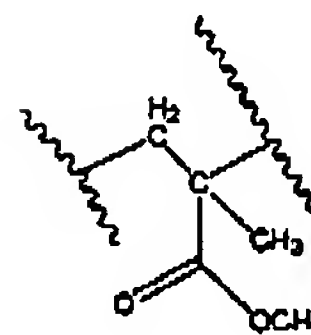
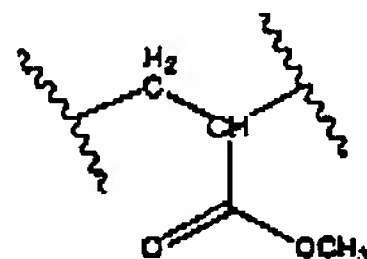
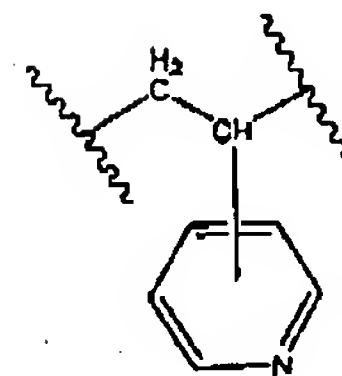
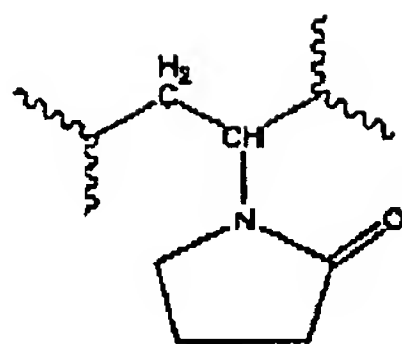
wherein A is selected from the group consisting of



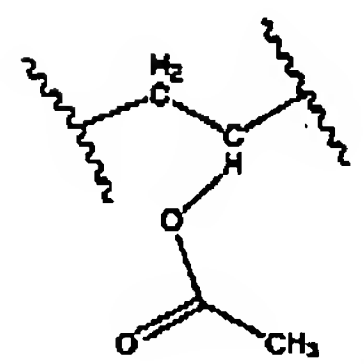
wherein B is selected from the group consisting of

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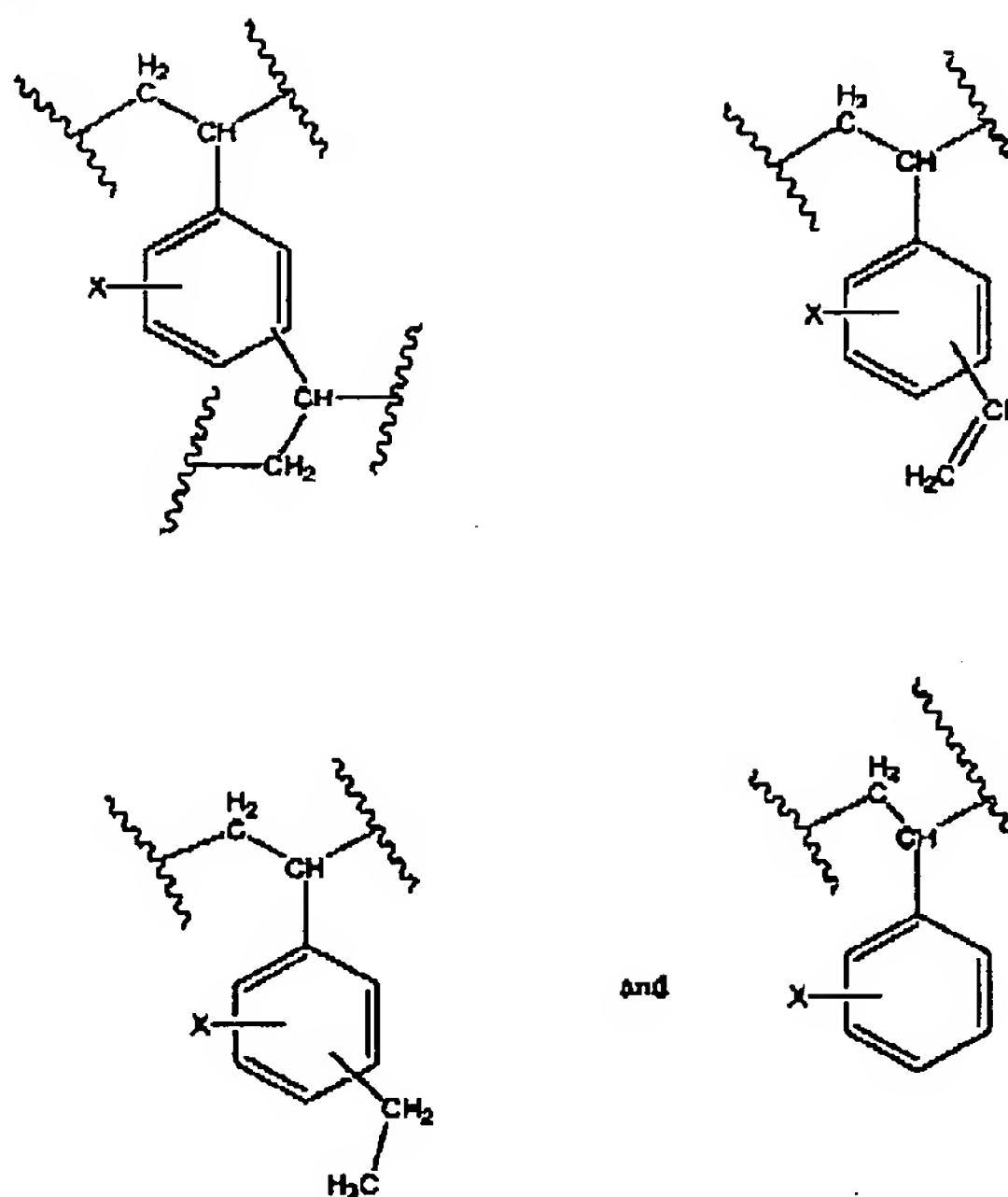
and



wherein C is modified A, wherein modified A is selected from the group consisting of

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and

wherein X is $-\text{CR}_1\text{R}_2\text{NR}_3\text{R}_4$ wherein:

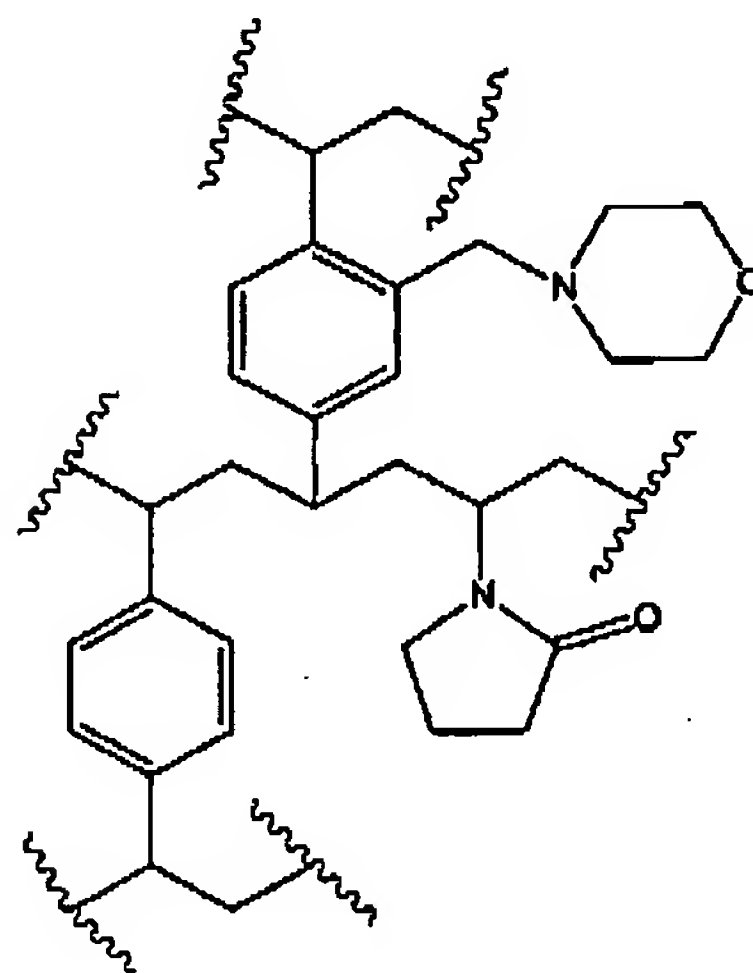
R_1 and R_2 are the same or different and each is hydrogen or C_1 - C_6 alkyl;

R_3 and R_4 are the same or different and each is hydrogen, an electron withdrawing group, C_1 - C_{20} alkyl, C_1 - C_{20} alkyl substituted by an electron withdrawing group, or R_3 and R_4 taken together form a carbocyclic ring or a heterocyclic ring, wherein the carbocyclic ring or heterocyclic ring can be substituted by an electron withdrawing group, provided that (i) R_1 , R_2 , R_3 , and R_4 are not all hydrogen; (ii) if R_1 and R_2 are hydrogen, then R_3 and R_4 are not both unsubstituted C_1 - C_{20} alkyl; and (iii) if R_1 and R_2 are hydrogen, and either of R_3 and R_4 is hydrogen, then the other of R_3 and R_4 is not polyethylenimine.

30. (Withdrawn) A porous material comprising the copolymer of claim 29.

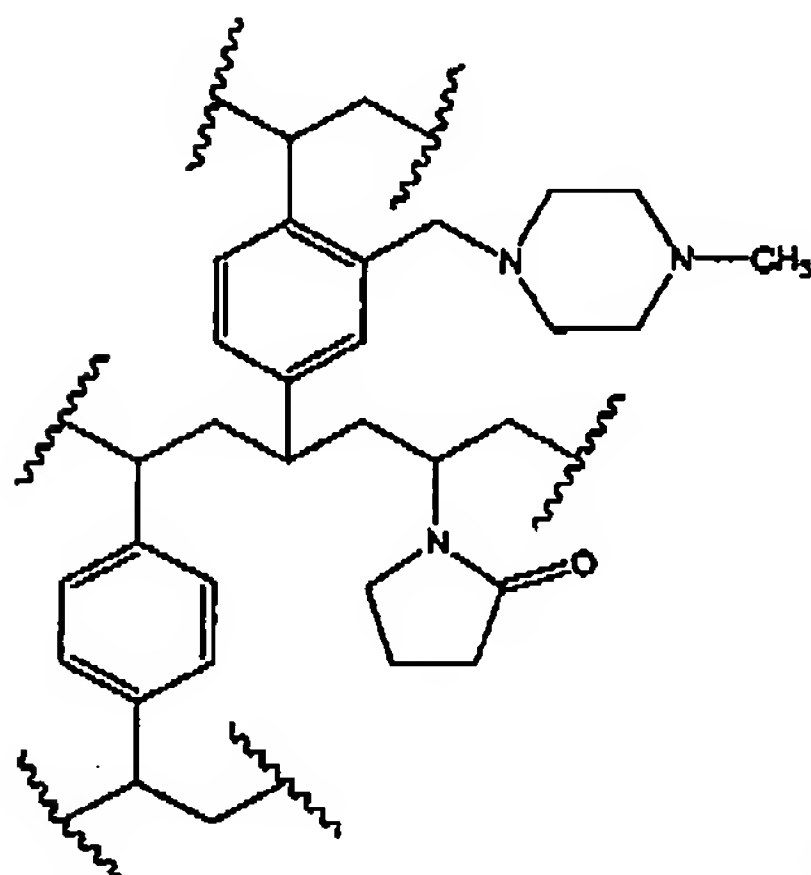
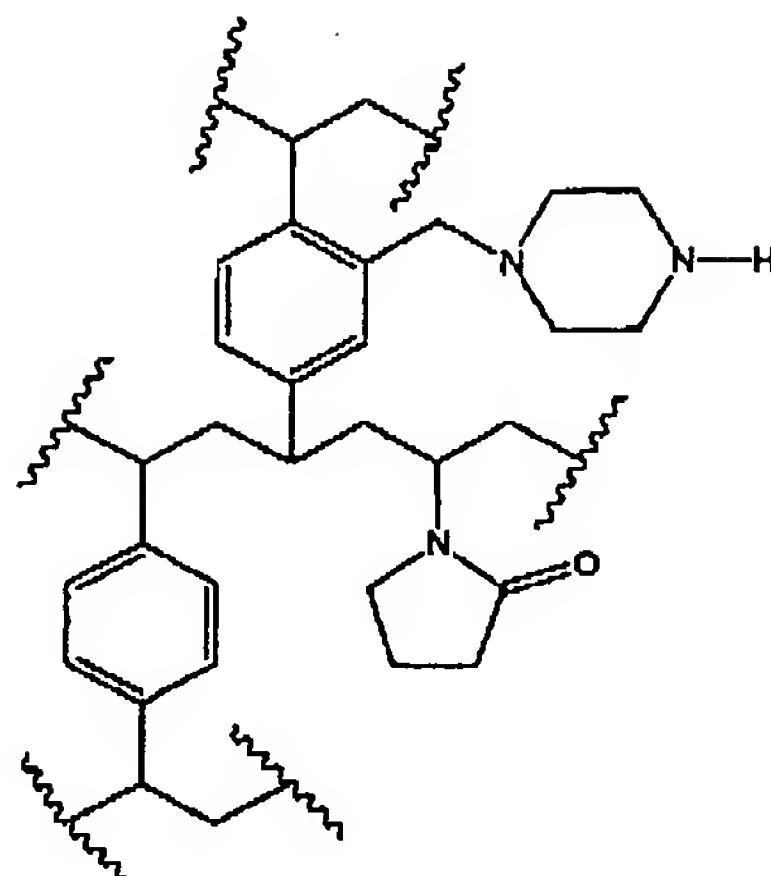
31. – 49. (Cancelled).

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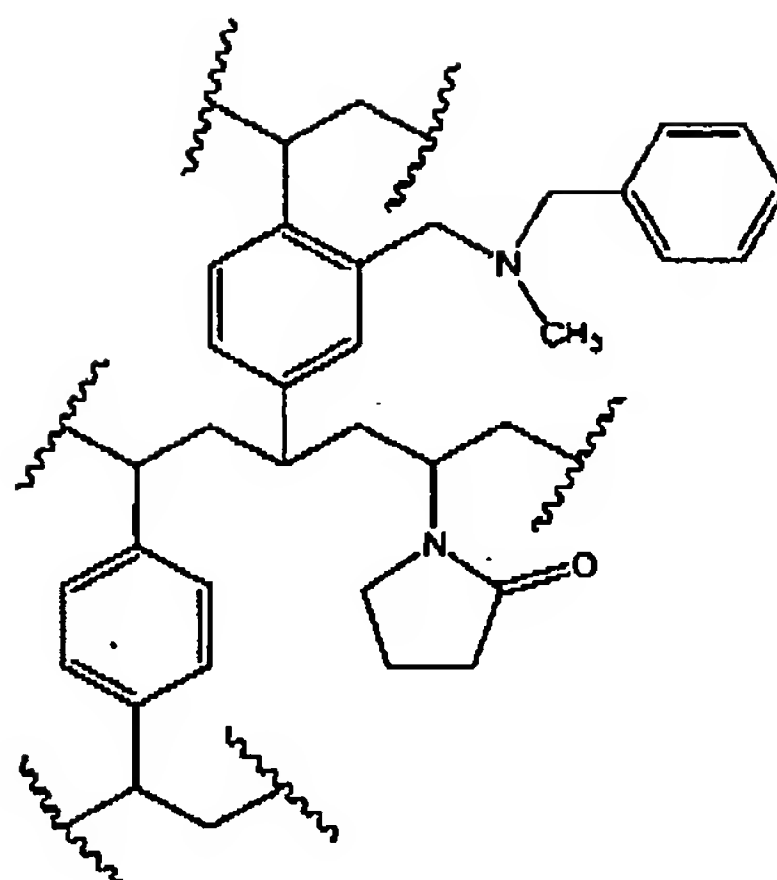
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and

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61. (Cancelled)

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62. (Withdrawn) A porous monolith comprising the copolymer recited in claim 1.

63. (Cancelled)

64. (Withdrawn) A method for removing or isolating a component from a mixture comprising:

contacting the mixture with a chromatographic material comprising the porous material according to claim 1, to thereby remove or isolate the component from the mixture.

65. (Withdrawn) A method for determining the level of a component in a mixture, comprising:

contacting the mixture with a chromatographic material comprising the porous material according to claim 1 under conditions that allow for sorption of the component onto the porous materials;

washing the chromatographic material having the sorbed component with a solvent under conditions so as to desorb the component from the porous materials;
and

determining the level of the desorbed component.

66. (Original) A separation device comprising the porous material according to claim 1.

67. (Original) The separation device of claim 66, wherein said device is selected from the group consisting of chromatographic columns, cartridges, thin layer chromatographic plates, filtration membranes, sample clean up devices, solid phase organic synthesis supports, and microtiter plates.

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68. (Cancelled)

69. (Previously presented) The separation device of claim 67, wherein said device comprises a solid phase extraction cartridge.

70. – 71. (Cancelled)